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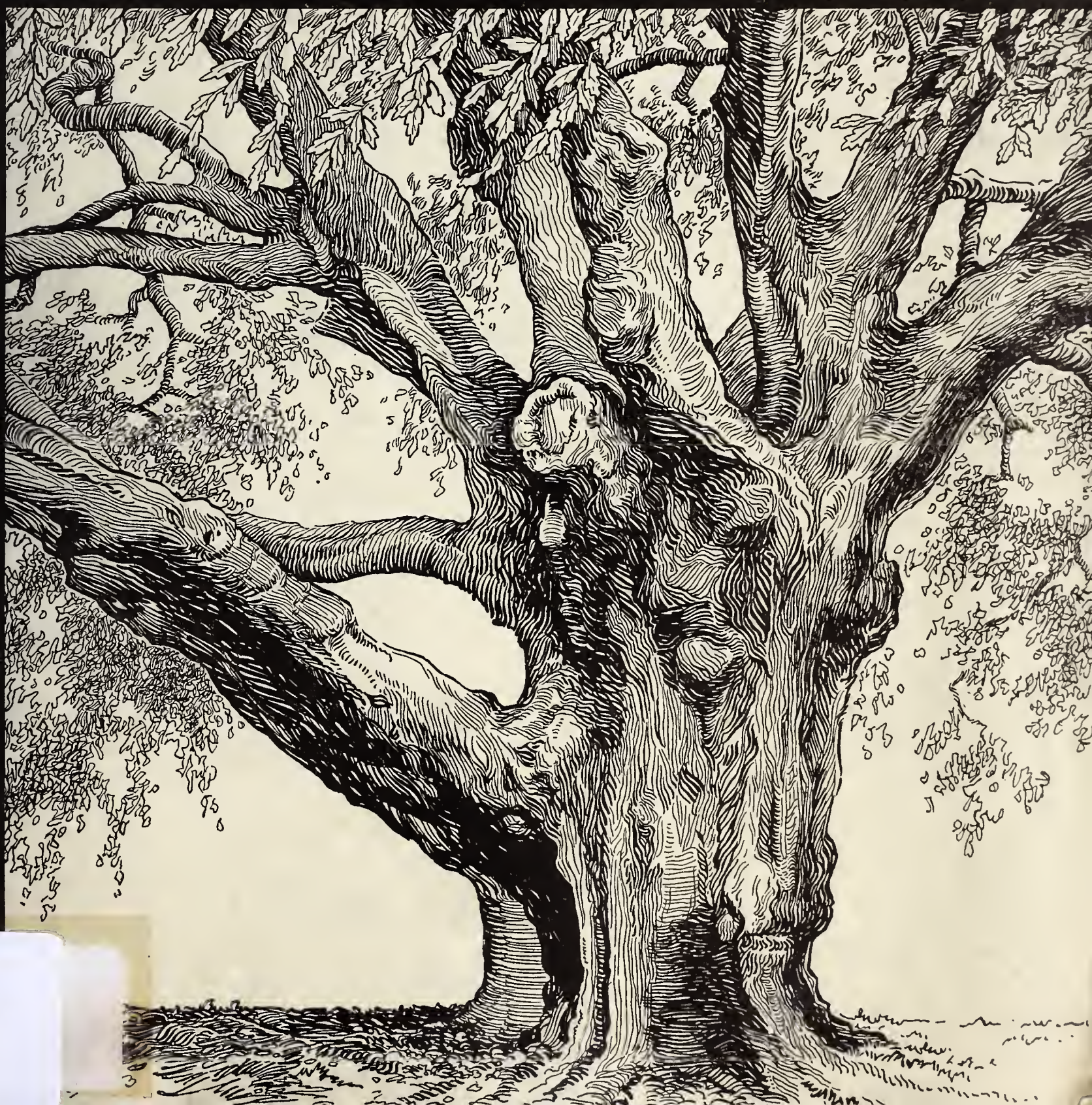
C O R



ITS ORIGIN AND USES . . .

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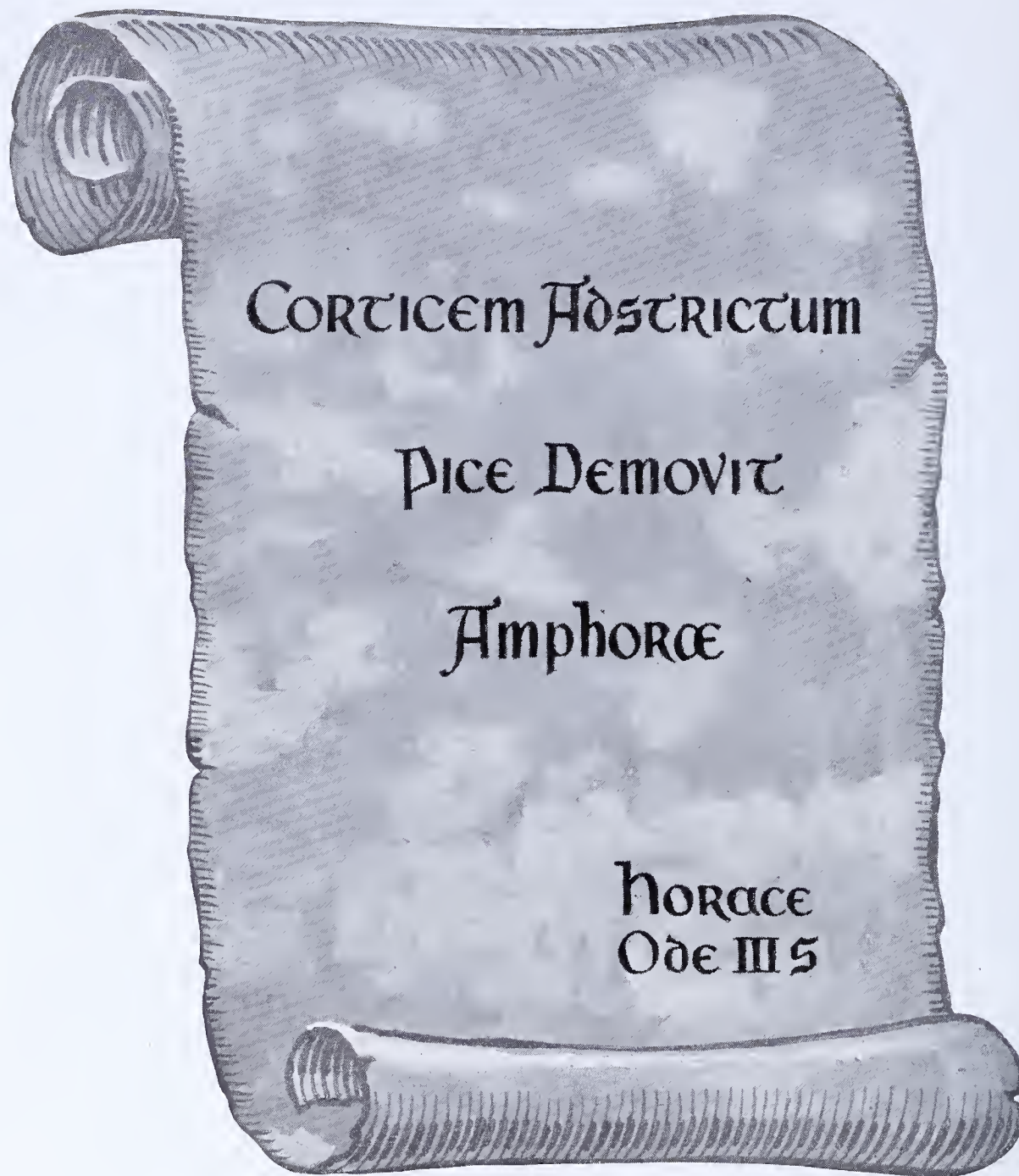
C O R K

BEING THE STORY
OF THE ORIGIN OF
CORK, THE PROCESSES
EMPLOYED IN ITS
MANUFACTURE, AND
ITS VARIED USES IN
THE WORLD TODAY

1930 EDITION

ARMSTRONG CORK COMPANY

LANCASTER, PENNSYLVANIA



CORTICEM ADSTRICTUM

PICE DEMOVIT

AMPHORÆ

HORACE
ODE III 5



C O R K

... a bit of history

WHEN Horace made the promise recorded upon the opposite page that he would "remove the cork sealed with pitch from the wine vase" he gave the cork industry a dating more than two thousand years old. Other ancients, too, were well acquainted with cork and its uses. Theophrastus (about 400 B. C.) mentions it in his

famous work on botany; Pliny tells of its use for stoppers, floats, and shoes; and Plutarch gives the following account of its use by a messenger sent to Rome, at that time besieged by the Gauls:

"Pontius Cominius, having dressed himself in mean attire, under which he concealed some pieces of cork, could not pass the river by the bridge, therefore took off his clothes which he fastened upon his head, and having laid himself upon the pieces of cork swam over and reached the city."

In more modern times the following entry was made in the amusing and instructive diary of Mr. Samuel Pepys:

"14 July, 1666—After having written to the Duke of York for money for the fleet, I went down

to Thames Street and there agreed for four or five tons of cork to be sent to the fleet, being a new device to make barricades with instead of junks (old cables)."

The English word "cork" is not definite in its derivation. Authorities disagree upon whether it comes from the Latin *Cortex* (bark) or the Spanish "Corcho" (cork). Some even consider it a shortening of the first syllable of the cork oak's botanical

name, *Quercus Suber*.

The name is unimportant, but the uses of cork are vital to modern comfort and convenience. While floats, bottle stoppers, and shoe soles probably were its chief uses in ancient days, today cork is literally everywhere. In almost every step of your daily life it plays an important part.

Cork walks with you in your shoes, flies with you in airplanes, rides with you in automobiles, trains, and ships. It serves you in your home, works with you at school or in business, plays with you in games and sports. It helps to make your food, wraps it in packages, and preserves it in storage. It helps to bring you electricity, gas, water, radio, and telephone communication. It





The Range of the Cork Oak in Western Europe and Northern Africa

COMPARATIVE DENSITY OF THE CORK FORESTS IS SHOWN BY THE USE OF THE SYMBOL ○. THE DARKLY SHADED AREAS INDICATE DENSE GROWTH AND ARE THE MOST IMPORTANT SOURCES OF SUPPLY.

is used in scores of ways in many different industries to speed up production, cut down operating costs, and make better products. Hundreds of new ways to use cork are just around the corner.

Characteristic properties which make cork valuable to our lives and essential to our industries are:

- (1) Buoyancy—light weight
- (2) Cellular structure
- (3) Resilience and compressibility
- (4) High resistance to deterioration
- (5) Resistance to moisture and common liquids
- (6) High resistance to passage of heat
- (7) Ability to absorb sound and vibration
- (8) High coefficient of friction

A few of its modern uses are: cold storage insulation, roof insulation, insulation for drinking water lines and other cold pipes, acoustical cor-

rection material, flooring materials (linoleum, cork tile, Linotile), decorative material for walls of display windows, modern shops, etc., floats, gaskets, life preservers, bottle stoppers, oil seals, handles, and hundreds of other items which may



LEAVES OF THE
CORK OAK —
BRIGHT AND GLOSSY, BUT SPONGY
AND VELVETY TO THE TOUCH.



AN ENORMOUS OLD CORK OAK. THIS TREE HAS WITHSTOOD THE RAVAGES OF MANY SCORCHING SUMMERS, PROTECTED BY NATURE'S OWN HEAT INSULATION—CORK.

be classed as essential to modern existence. A complete list would occupy several pages. The more important uses are described in detail later. The shaded sections of the cork map on page 4 will give you a good idea of the world's cork growing countries. Portugal and Spain are the chief producers. Algeria, with Tunisia, ranks next, followed by France, Morocco, and Corsica.



CORK PICKERS RESTING BY THE PATH IN A TUNISIAN FOREST. TUNISIA, WITH ALGERIA, RANKS NEXT IN CORK OUTPUT TO SPAIN AND PORTUGAL.

measurements are often exceeded by unusually well developed trees. The cork oak is an evergreen, its leaves measuring about one and one-half by one-half inches. These leaves are somewhat similar to the familiar holly leaf, but are spongy and velvety to the touch. The roots are strong and widespreading, often coming above the surface of the ground. The acorns ripen in the fall. They are usually fed to

... produced by two species of oak

Cork is the product of two species of oak trees—*Quercus Suber* and *Quercus Occidentalis*. The cork oak grows to a height of from twenty to sixty feet and the trunk sometimes gains a diameter of four feet, although these

swine, and are said to be responsible for the piquant flavor peculiar to Spanish hams.

This appetite of swine for the cork oak acorns brings the owner of the forest a double source of income. The hogs root out the underbrush, greatly reducing the danger of fire, and the owner of the swine pays

A CORK CUTTER'S HOME IN SOUTHERN SPAIN. THIS HUT IS TYPICAL OF THOUSANDS SCATTERED THROUGHOUT THE CORK COUNTRY. NOTICE THE HOME-MADE WASH TUBS, MADE OF CURVED CORK AND CORK END PIECES.



for the grazing privilege. The owner of the forest is then paid according to the weight gained by the hogs during the season in the forest.

. . . the outer bark

Cork is the outer bark or shell of this oak tree. The inner skin, or phelogen, provides a base on which each year the tree adds a new inner layer to the cork. If the bark is removed from any tree familiar to us it will die, for the bark contains the vascular bundles that nourish the tree. But the outer layers of cork are simply a protective coat which may be removed without injuring the tree.

Portuguese law requires that the bark must not be removed from cork trees until they have attained a circumference of fifteen and a half inches, a diameter of about five inches. At this time the tree is about twenty years old. The first stripping is called virgin cork. It is rough and of minor commercial value. The second stripping comes about nine years later. This bark is more valuable than the virgin cork, but is by no means the tree's best crop. Good quality cork is obtained beginning with the third stripping. The average productive life of a tree is a hundred years, and during this time it is stripped every nine years. Due to the increasing demand for cork, many owners strip the tree at eight years in Spain. In Portugal the law prohibits stripping oftener than at nine-year intervals.

. . . removed with care

The cork must be removed with great care for wherever the inner bark is injured no new cork will form, and if it is injured too much the life of the tree is endangered. After stripping, the tender inner bark is, of course, exposed for some time until a new layer of cork begins to form. For this reason stripping is never done when a Sirocco, a hot storm from

NATIVE WORKER IN ALGERIA STRIPPING CORK FROM A TREE.

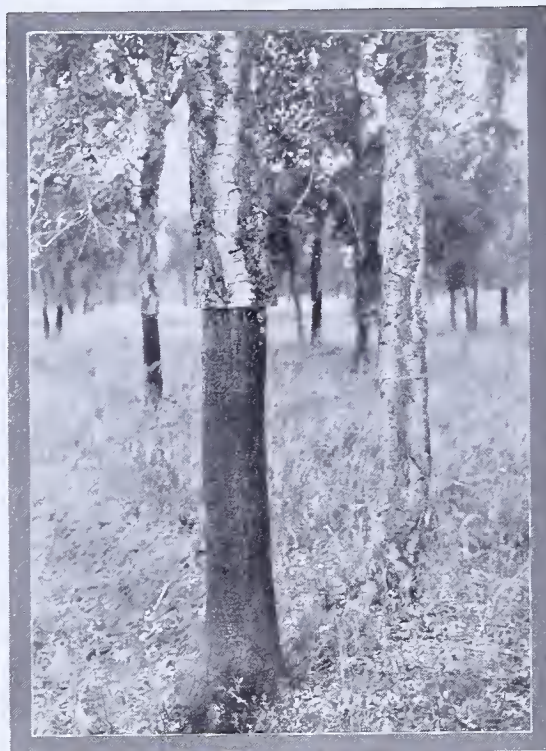


BELOW—STRIPPING CORK FROM THE TREE IN SOUTHERN FRANCE. THE WORKMAN ON THE RIGHT IS USING THE HANDLE OF HIS AX TO PRY THE BARK AWAY.



the Mediterranean, is raging, as the heat of the wind would cause undue drying.

Strippings always take place in June and July. The Spanish method requires a long-handled hatchet. Crescent-shaped saws are sometimes used, especially in Algeria. In either case, the workmen make two cuts around the tree, one at the ground and one at the top of the trunk below the main branches. These cuts are made clear through the cork but not into the true bark. Then two vertical cuts are made, taking advantage of the natural crevices in the bark. The workmen insert the wedge-shaped ends of their hatchet handles, and pry the cork bark off. In the forests owned and exploited by private interests, the larger branches are stripped in the same way. Although the cork from the branches is not so thick as from the trunk, it is frequently of finer quality. In North Africa, however, the French government, which owns and operates many of the cork forests, forbids the stripping of the branches and of even the trunk above a height of about six feet from the ground. Careful observation of the cork oak led to the adoption of this practice to insure maximum life and productivity of the tree.



A CORK OAK STRIPPED OF ITS BARK TO THE LEGAL SIX-FOOT HEIGHT, IN THE MA'MORA FOREST, MOROCCO. THIS FOREST IS OWNED AND OPERATED BY THE FRENCH GOVERNMENT.

... *buying*

The buying of the annual crop of corkwood is an engaging, interesting procedure, one that calls for an intimate knowledge of cork qualities and a keen appreciation of values. Cork grown at high altitudes, for example, seems to be of finer texture than lowland bark. Nor does quality run uniform in any one locality; whereas one hillside may produce a crop of excellent wood, the slope across the valley or over the ridge may net a very low percentage of good cork. Usually little more than sixty per cent of any stripping can be used for bottlestoppers and other "natural cork" products. The balance, called "refugo," is good only for grinding purposes. It

is used in composition products where smooth even texture is not required.

To buy intelligently then, the purchaser must not only know the production records of the forest but must also "sample" each crop on which he bids. Through the forest in a bee-line, the buyer sends his "sampler," an experienced worker with a big sack slung over his back and a tubular punch in his hand. As he goes he "taps" every fifth or tenth or twentieth tree, re-

FOREST OF CORK OAK TREES IN LANDES, FRANCE.





CORK BARK PILED TOGETHER IN A FOREST NEAR SEVILLE, SPAIN. HERE IT IS ALLOWED TO DRY OUT AND SEASON BEFORE IT IS WEIGHED AND PREPARED FOR SHIPPING.

moving a small cylindrical section of cork just as a fruit dealer plugs watermelons.

Dropped into the sampler's sack, these discs are taken back to the buyer's office for careful examination, and upon the judgment formed from an analysis of this cross-section a bid is made on the stripping of the forest.

In the privately owned lands of Spain and Portugal, the buyer deals directly with the owner or his agent. He may contract for an entire mountainside while the bark is still on the trees. In Morocco, Algeria, and Tunisia, however, the French government disposes of its corkwood at great public auctions. To these events, held at major centers in the cork growing regions of North Africa, come buyers and importers from all the important cork-using countries in the world.

While some sales in Northern Africa are conducted by bidding up the lots of cork, there also exists a method contrary to the auction custom that we know. Here the auctioneer does not ask for bids. He starts with a top price on each lot of cork to be sold. If his announcement is met with silence from his audience he names a slightly lower figure. Down he goes, shouting out successively lower figures until someone in his audience cries "*Je prends.*" The first lot, usually a small one, is generally purchased by a small operator anxious to get the short quantity he needs before the larger buyers come in and take everything.

Prices are called faster and faster by the auctioneer as he comes down to lower figures on each lot of cork. The successful buyer is he who

can sit listening to descending figures without betraying by his facial expression the fact that soon he is going to say "*Je prends.*" (I take.)

. . . seasoning

After the cork is removed from the trees, it is gathered into piles and left for a few days to dry before weighing. Next it is carried to the boiling station and allowed to season. Boiling is usually done in large vats over open fires somewhere near the cork forest, or it may be done at some industrial center to which the cork is shipped just as it is taken from the tree. Boiling removes sap and tannic acid, increases the elasticity of the



CORK AS IT COMES FROM THE TREE. THE PIECE ON THE LEFT IS VIRGIN CORK, GOOD ONLY FOR GRINDING.



THIS PICTURE SHOWS THE USUAL METHOD OF BOILING CORK BARK PREPARATORY TO SCRAPING AND PRESSING, IN SPAIN. A LOT IS BEING LIFTED FROM THE VAT OF WATER.

MEN IN THE BACKGROUND ARE SCRAPING OFF THE WOODY OUTER PORTION OF THE BOILED CORK, WHILE THE WORKMAN IN THE FOREGROUND IS PRESSING THE SLABS IN A PRIMITIVE TYPE OF PRESS.



cork, and flattens it out so that it may be easily packed. It also loosens the rough outer layer of the cork bark, which is scraped off, reducing the weight of the cork by twenty per cent.

. . . transportation is difficult

Most of the cork forests of the Spanish peninsula are in the mountains or other almost inaccessible positions, where the roads are undeveloped. In many localities after the cork is sorted, it is made up into rough bundles and loaded upon the backs of burros. This patient little animal might well be called the Spaniard's best friend. Burros do a great amount of the work in these remote districts. Since the cork does not weigh much, the animals are loaded from head to tail, and jog along grotesquely, carrying loads almost as large as themselves. They tread their way carefully

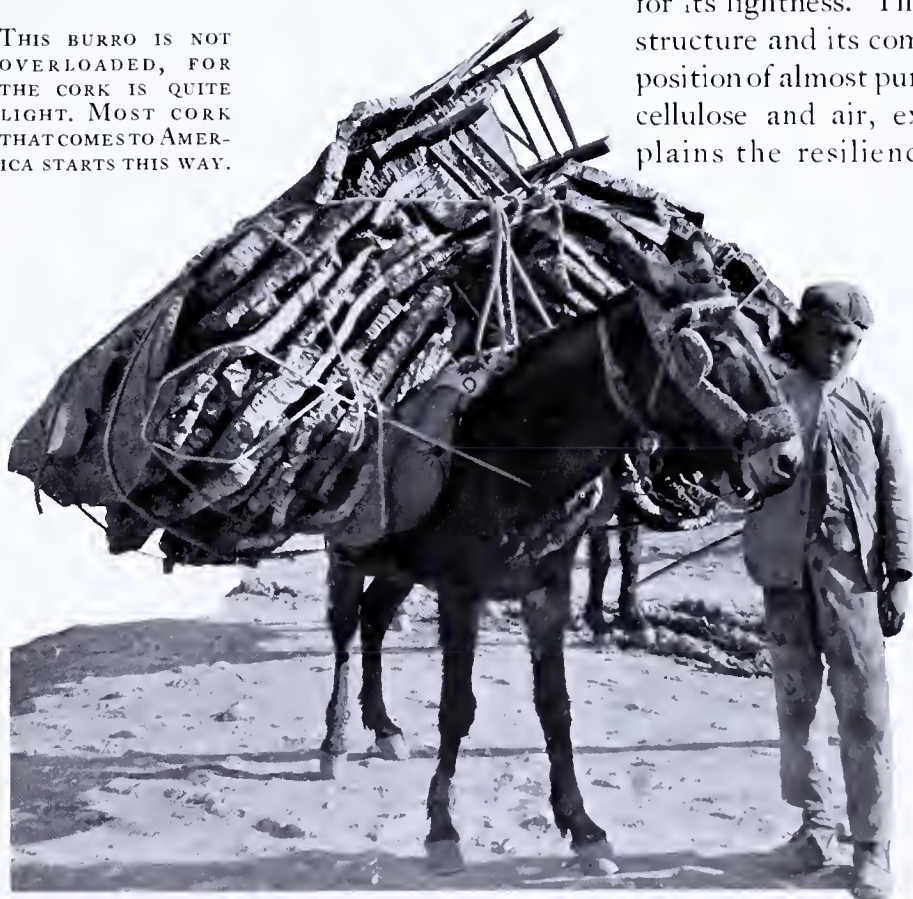


TRIMMING THE EDGES OF FLATTENED CORK SLABS AND PREPARING THEM FOR SORTING.

over narrow and precipitous mountain paths in trains of thirty, forty, or even a hundred burros.

Seville, in Spain, is a typical cork center. Here on the banks of Guadalquivir, every street reflects the cork industry during the latter part of the summer. Scores of two-wheeled carts, loaded with cork, wend their way through the streets to the factories, warehouses, and wharves. Every year, however, sees an added number of high speed motor trucks taking the place of carts and burros. Before the cork is shipped, the crude bundles are opened up, and the rough edges of the cork trimmed. A further grading for quality then takes place, dividing the cork into about twenty-five groups. It is then baled for shipping. The larger pieces form the top and bottom of the bale . . . the whole is tightly bound together with iron straps.

THIS BURRO IS NOT OVERLOADED, FOR THE CORK IS QUITE LIGHT. MOST CORK THAT COMES TO AMERICA STARTS THIS WAY.



. . . off to America

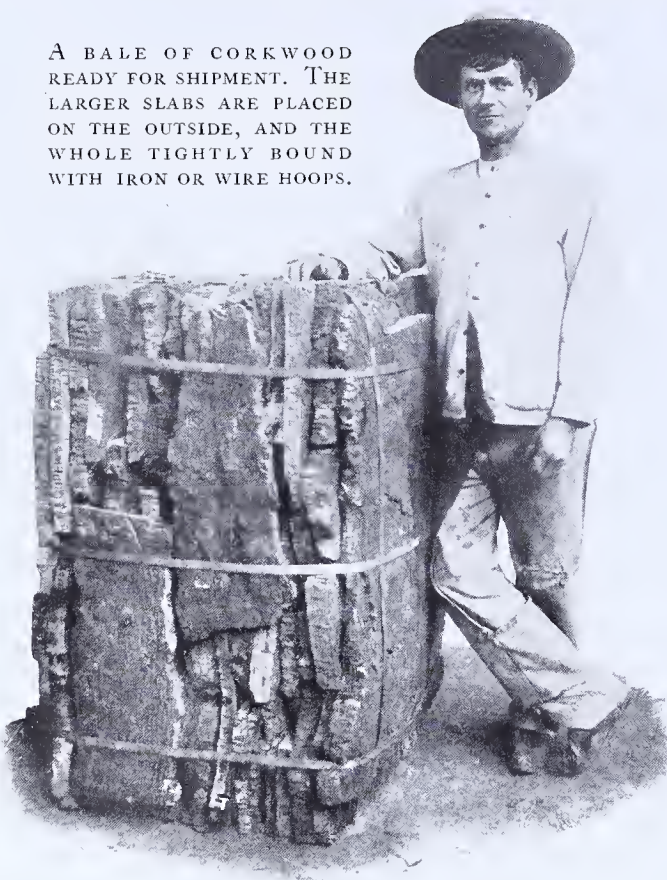
The cork is now ready for shipment to all parts of the globe. The most of it finds its way to our own Atlantic ports, particularly Philadelphia, New York, and Baltimore. The Armstrong Cork Company imports much

of this cork, receiving it at its own pier at Gloucester, New Jersey, near Camden. From here it is shipped to the company's factories at Camden, N. J., Lancaster, Beaver Falls, and Pittsburgh, Pa. Although the cork has already been separated into twenty-five groupings, this is entirely inadequate for the many purposes to which the cork may be put. At the Pittsburgh factory where the finer grades of cork are handled, a further classification separates the cork into as many as eighty groups, differing so little as to be indistinguishable to anyone but an expert. Years of practice are required to become a highly skilled cork-wood sorter. Some of the experts in the Armstrong factories have worked at that occupation for over twenty years.

. . . an idea of cork's physical nature

Before discussing the various products it may be well to get a very clear idea of exactly what cork is, and consequently of the basis for its industrial uses. Cork is made up of millions of tiny cells, each filled with air. The cell walls are thin but very strong tissues of cellulose and the cells are held together with a sort of natural gum or resin. Fifty-three per cent of the total cork volume is air, which accounts for its lightness. This structure and its composition of almost pure cellulose and air, explains the resilience

A BALE OF CORKWOOD
READY FOR SHIPMENT. THE
LARGER SLABS ARE PLACED
ON THE OUTSIDE, AND THE
WHOLE TIGHTLY BOUND
WITH IRON OR WIRE HOOPS.



of cork and its compressibility, its resistance to decay, its low absorption of liquids, and its property of resisting the passage of heat.

Cork is extremely compressible, and has a remarkable ability to return to its original shape once the pressure is removed. Corks that have been in bottles for ten years have recovered seventy-five per cent of their original volume when released.

... hundreds of products

After sorting, the cork is ready to be made into any of hundreds of products. These products require cork in all its forms. Many products are manufactured from the whole or natural cork, trimmed and cut to proper shapes and sizes. A rapidly growing number of articles are produced from cork compositions which are made of finely granulated cork mixed with binders and compressed in ovens. Corkboard insulation uses coarsely granulated cork molded and baked into slabs without the use of an artificial binder. Linoleum and Linotile require a cork powder so fine that it floats in the air like dust.

To attempt to name all of these cork products is beyond the scope of this book. A classified list will be found opposite page 32. This list includes some things which do not contain cork but which are closely allied to certain cork products and hence are made by the Armstrong Cork Company. Among such products are: Armstrong's Quaker Rugs and Floor Covering, a companion line to Armstrong's Linoleum, which are made of asphalt saturated felt. Then there are rubber stoppers for bottles; high pressure coverings and blocks made of diatomaceous earth and used for insulating steam lines and boilers; and insulating brick for boiler settings, also made of diatomaceous earth.

Now let us have a look at the Armstrong Cork Company which was a pioneer in the cork industries in America and is one of the world's most important manufacturers of cork products.

BALES OF CORK STACKED NEAR THE WATERFRONT MARKED
FOR SHIPMENT TO THE ARMSTRONG CORK COMPANY.





CORKWOOD BEING UNLOADED AT THE WHARF. TO AN INCREASING EXTENT, EVERY YEAR, HIGH-POWERED AUTOMOBILE TRUCKS ARE REPLACING THESE CRUDE WAGONS IN THE CORK INDUSTRY OF SPAIN.

CORK SHIPPING ALONG THE BANKS OF THE GUADALQUIVIR RIVER AT SEVILLE, SPAIN. THE MOST OF THIS CORK FINDS ITS WAY TO AMERICAN PORTS.



Armstrong Factories and Cork Preparing Stations

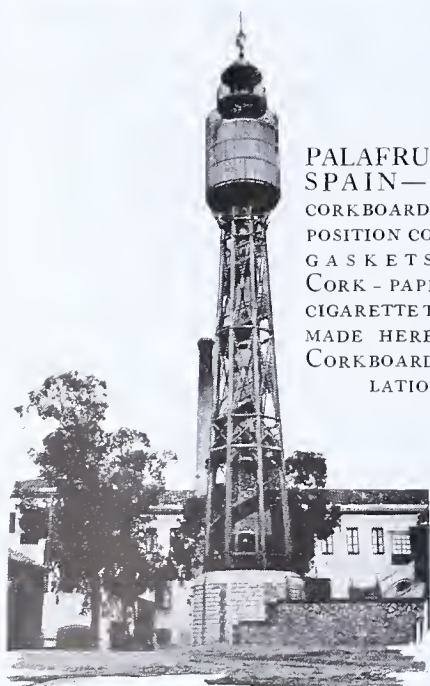


SAN FELIU, SPAIN—CORK WASTE AND BALING STATION.

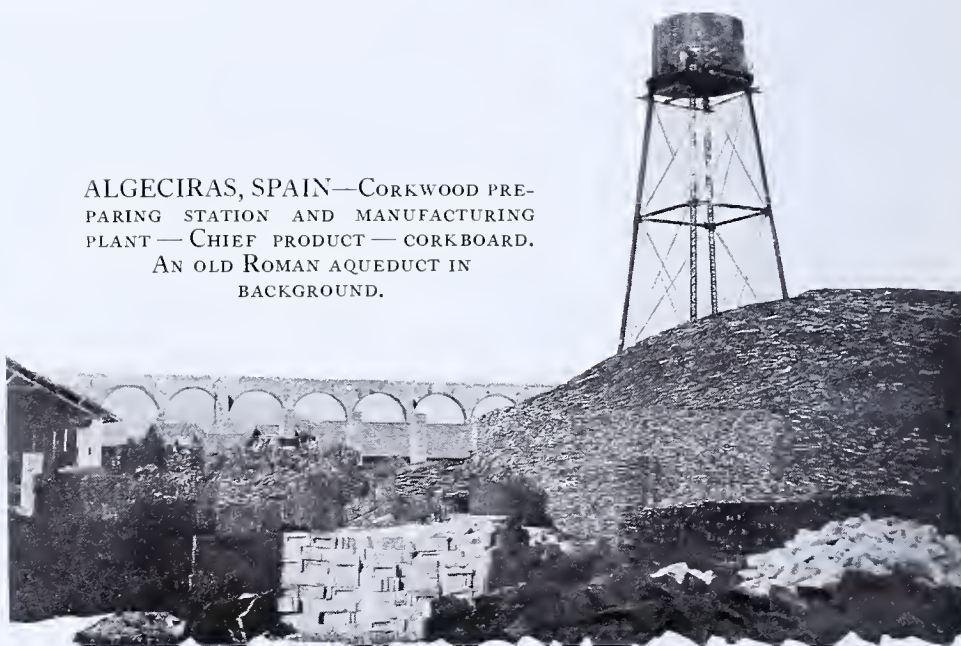
SEVILLE, SPAIN—MANUFACTURES
CORK PRODUCTS INCLUDING BOTTLE
CORKS, CORKBOARD, AND SEINE FLOATS.



PALAMOS, SPAIN—ENTRANCE TO PLANT. PALAMOS IS THE SALES HEADQUARTERS OF MANUFACTURAS DE CORCHO ARMSTRONG—SPANISH SUBSIDIARY OF THE ARMSTRONG CORK COMPANY.



PALAFRUGELL, SPAIN—CORK, CORKBOARD, COMPOSITION CORK FOR GASKETS, AND CORK-PAPER FOR CIGARETTE TIPS ARE MADE HERE; ALSO CORKBOARD INSULATION.



ALGECIRAS, SPAIN—CORKWOOD PREPARING STATION AND MANUFACTURING PLANT—CHIEF PRODUCT—CORKBOARD. AN OLD ROMAN AQUEDUCT IN BACKGROUND.

Intimate Scenes in the Cork Producing Countries



ALDEA GALLEGA, PORTUGAL—WORKERS AT THE ENTRANCE OF THE BALING STATION. NOTE THE MOUNTAIN OF CORK INSIDE THE YARD.



DJIDJELLI, ALGERIA—THE MOST IMPORTANT CORKWOOD PREPARING PLANT IN NORTH AFRICA.

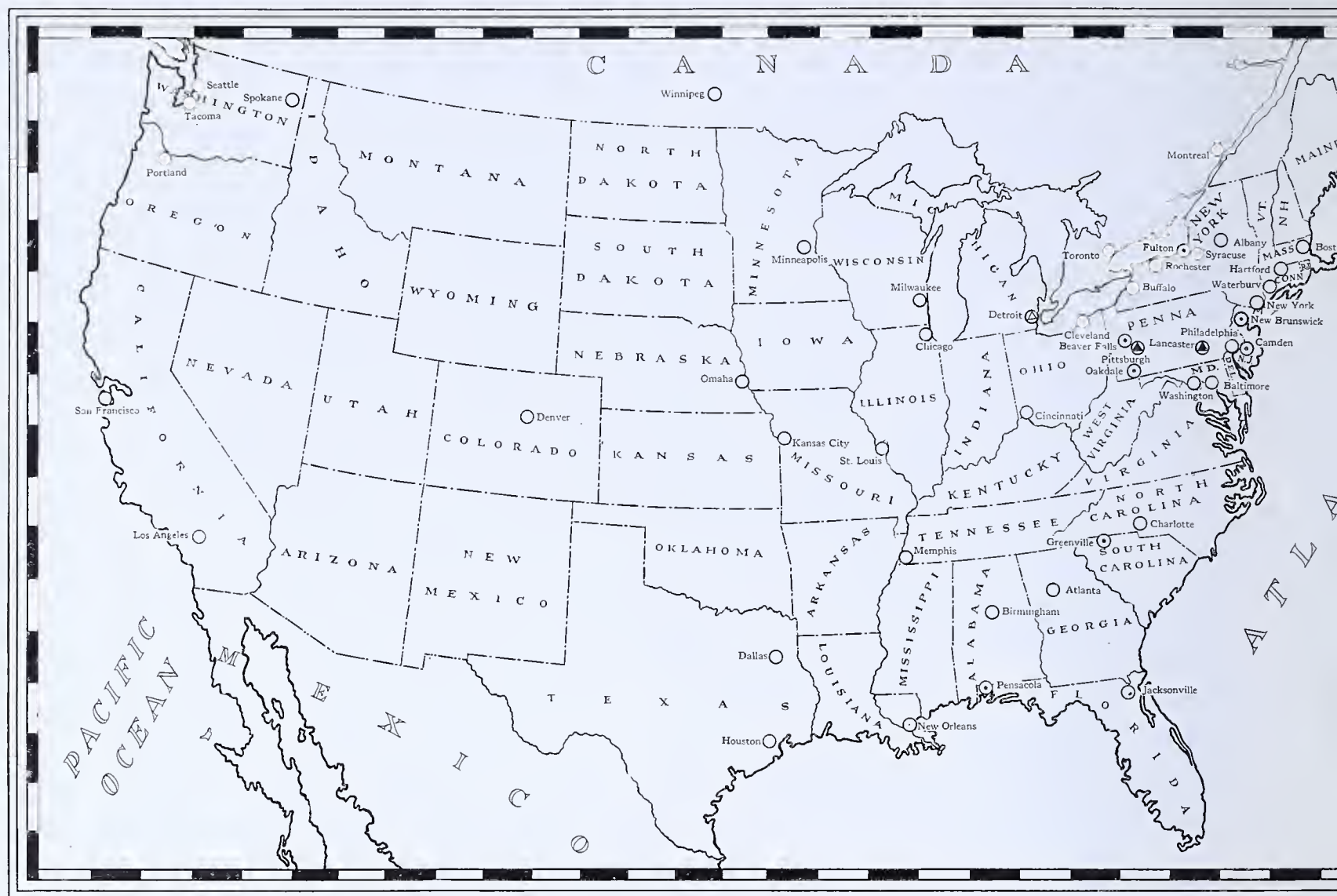


ST. RAPHAEL, FRANCE—CORK WASTE AND BALING STATION.

MARGUEIRA, PORTUGAL—NOTE THE PICTURESQUE SAILING BOATS FROM UP THE TAGUS RIVER WITH THEIR CARGOES OF CORK.



Extent of the Armstrong Organization



ARMSTRONG
EXECUTIVE
LANCASTER

Cork Division

FACTORIES

Pittsburgh, Greenville, S. C.
Lancaster

SALES OFFICES

Baltimore	Cleveland	Philadelphia
Boston	Detroit	Pittsburgh
Chicago	Lancaster	San Francisco
Cincinnati	New York	St. Louis

Insulation Division

FACTORIES

Beaver Falls, Oakdale, Pa., Camden, N. J.

SALES OFFICES

Albany	Cleveland	Minneapolis
Atlanta	Dallas	New York
Birmingham	Denver	Pittsburgh
Boston	Detroit	Rochester
Buffalo	Houston	St. Louis
Charlotte	Jacksonville	Montreal
Chicago	Kansas City	Toronto
Cincinnati	Memphis	Winnipeg

Floor Division

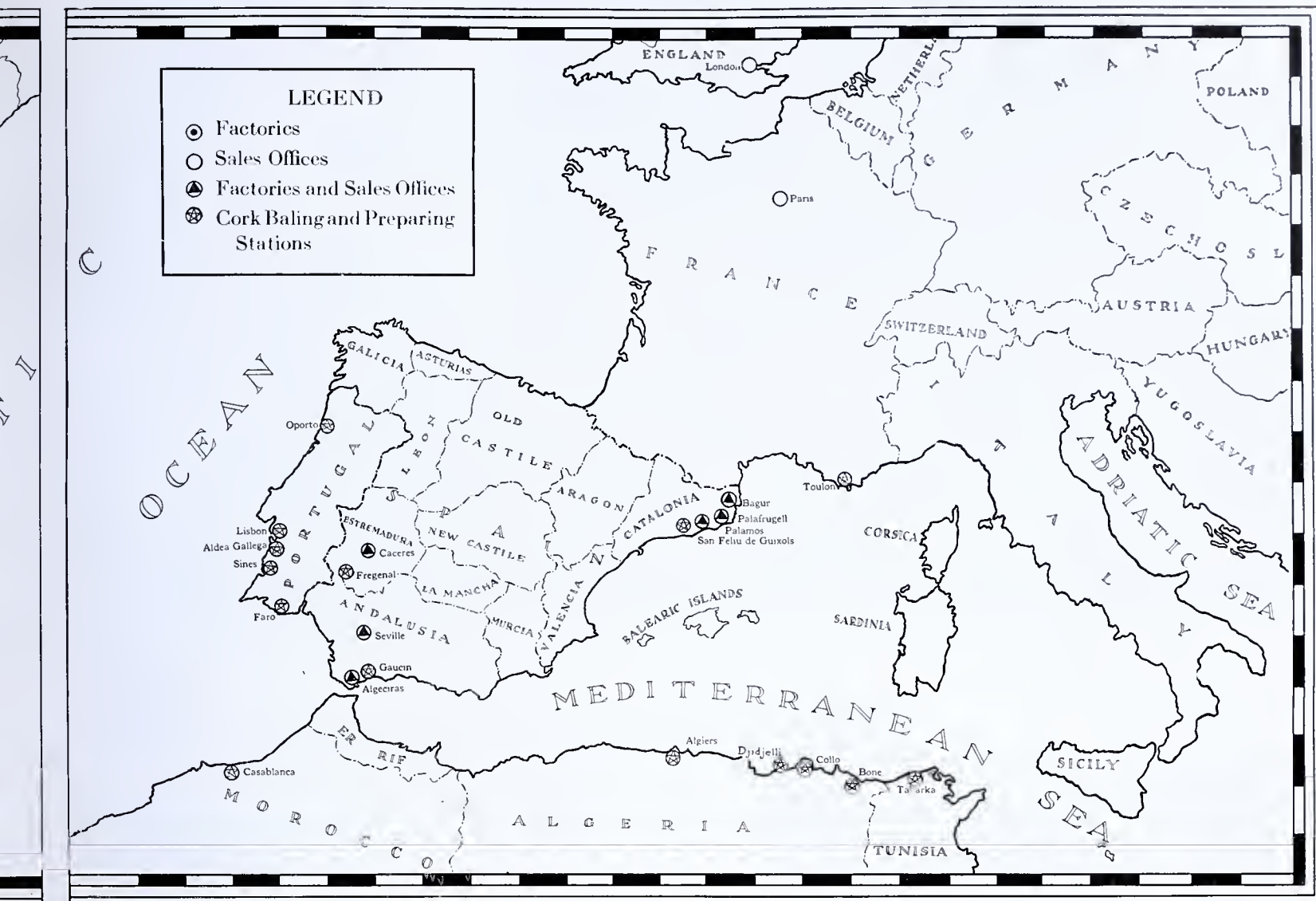
FACTORIES

Fulton, N. Y.
New Brunswick

SALES OFFICES

Atlanta	Dallas
Boston	Denver
Buffalo	Detroit
Chicago	Kansas
Cleveland	Lancaster
Cincinnati	Los Angeles
	Memphis

in America, Europe and North Africa



CORK COMPANY

OFFICES

ER, PA.

Division

IES
ancaster, Pa.
k, N. J.
ICES
Minneapolis
New Orleans
New York City
San Francisco
Seattle
St. Louis

Corkwood Division

HEADQUARTERS—SEVILLE, SPAIN

Cork Preparation Stations

FRANCE	SPAIN	ALGERIA
Toulon	Seville	Algiers
PORTUGAL	Algeciras	Bone
Aldea Gallega	Fregenal	Collo
Faro	Caceres	Djidjelli
Lisbon	Gaucin	MOROCCO
Oporto	San Feliu de	Casablanca
Sines	Guixols	TUNISIA
Azaruja		Tabarka

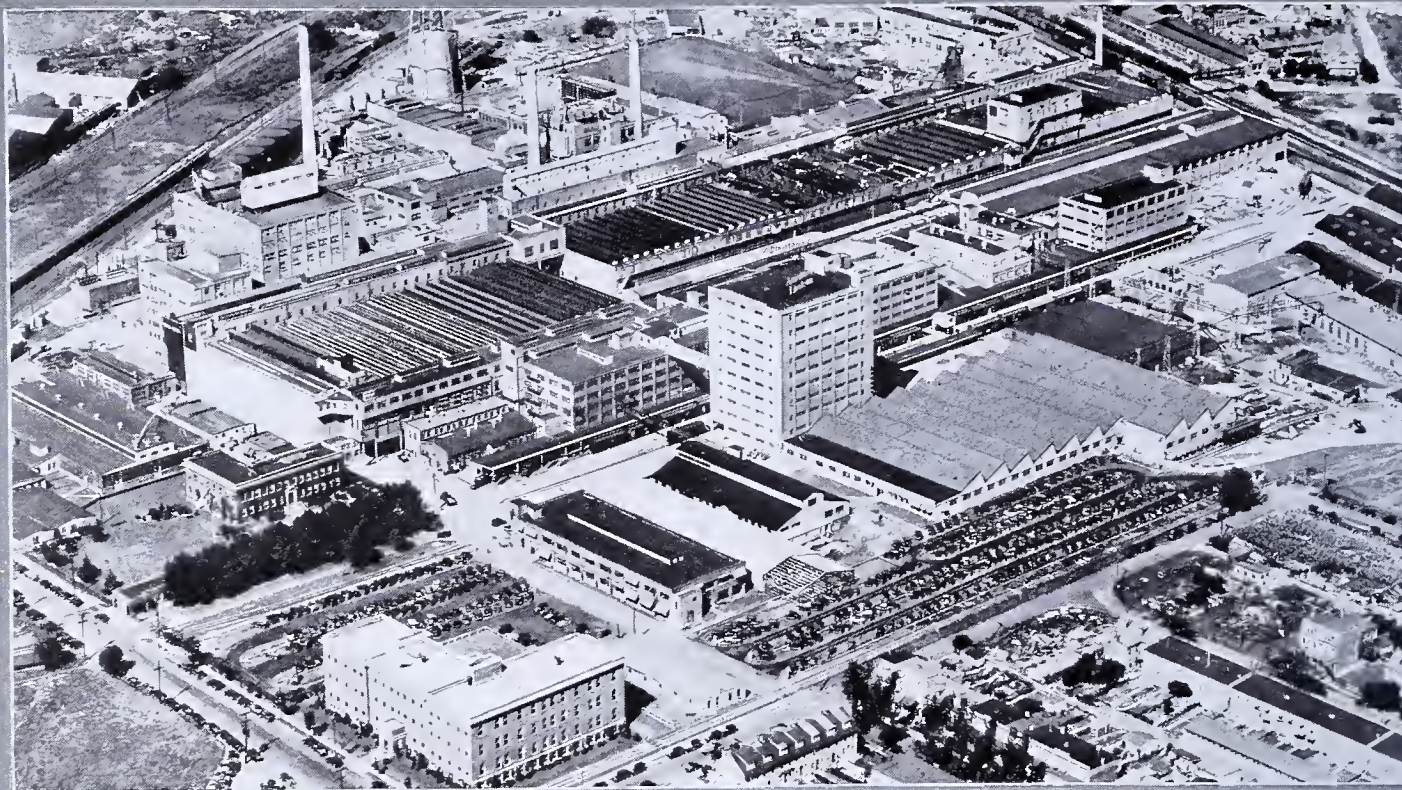
Foreign Manufacturing and Sales Divisions

FACTORIES

SPAIN
Palamos
Palafrugell
Seville
Algeciras
Bagur
Caceres

SALES OFFICES

FRANCE
Paris
ENGLAND
London
CANADA
Montreal
Toronto
Winnipeg



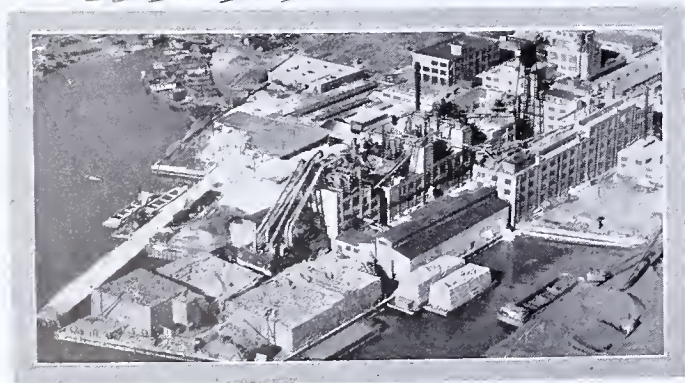
ARMSTRONG FACTORY AT LANCASTER, PA., WHERE FLOOR DIVISION PRODUCTS ARE MANUFACTURED. THE EXECUTIVE OFFICES ARE SITUATED IN THE BUILDING IN THE FOREGROUND.



LANCASTER CORK WORKS WHERE BOTTLE CLOSURES, CROWN CAPS, SHOE PRODUCTS, AND OTHER CORK PRODUCTS ARE MADE.



OAKDALE, PA., (LEFT) AND CAMDEN, N. J. (BELOW) WHERE INSULATION PRODUCTS ARE MANUFACTURED.



... a great industry based upon CORK

IN 1860, just before the American Civil War, two young men, Thomas D. Armstrong and John D. Glass, purchased a small cork manufacturing business in Pittsburgh, Pa. It had been founded but a few years before by a former employee of the first cork manufacturer in the United States, William King. So entered the name Armstrong into the cork industry, in a connection which later grew into the Armstrong Cork Company.

In the course of almost three-quarters of a century that little enterprise, which was originally confined to a single room where corks were cut by hand, has grown to be one of the world's largest cork-product manufacturing concerns. Today ten American factories are required for the manufacture of the wide variety of products made by this Company. In the cork growing countries on the western Mediterranean there are six Armstrong factories and a score or more cork preparation and baling stations.

Two factories, one in Pittsburgh, Pa., and the other in Lancaster, Pa., manufacture cork bottle stoppers, gaskets, washers, floats, composition materials, life preservers, ring buoys, and literally



THE ARMSTRONG CORK COMPANY'S FACTORY AT PITTSBURGH, PA., WHERE A WIDE VARIETY OF CORK PRODUCTS ARE MADE.

hundreds of cork specialties. Cork insulation products—corkboard, cork pipe covering, insulating brick, cork brick, machinery isolation and Cork-oustic—are made at factories in Beaver Falls, Pa., and Camden, N. J.

At Gloucester, N. J., the Armstrong Cork Company has its own dock and warehouses for receiving, unloading, and storing the cork.

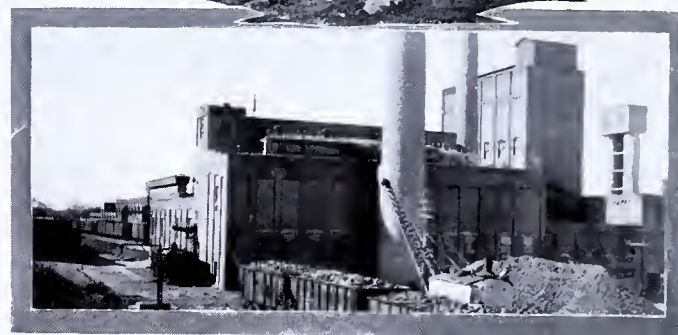
The largest Armstrong factory in this country is that of the Floor Division in Lancaster, Pa.; 3,000 men are engaged there in making Armstrong's Linoleum, Armstrong's Linotile, and Armstrong's Quaker Rugs.

Certain Armstrong plants produce articles that do not contain cork. They are located at New Brunswick, N. J., where Armstrong's Quaker Rugs and Floor Covering are made; Fulton, N. Y., where felt and felt products are manufactured; Oakdale, Pa., where high temperature pipe covering and blocks are produced; and Pensacola, Fla., where Armstrong's Temlok, a wood fibre insulating board, is made.

Thus the cork business that was founded in a one-room factory back in 1860 has grown and grown until today it employs 10,000 people in the United States, Spain, Portugal, and North Africa. The products it manufactures are used in every civilized country in the world.



THE PLANT AT NEW BRUNSWICK, NEW JERSEY, DEVOTED TO THE PRODUCTION OF ARMSTRONG'S QUAKER RUGS.



ARMSTRONG'S FELT USED IN THE MAKING OF ARMSTRONG'S QUAKER RUGS AND FLOOR COVERING, AND ARMSTRONG'S ROOFING FELT ARE MANUFACTURED IN THE ARROWHEAD PLANT AT FULTON, N. Y., PICTURED ABOVE.



BEAVER FALLS, PA.—WHERE INSULATING BRICK, ARMSTRONG'S CORKBOARD, GRANULATED CORK AND ARMSTRONG'S CORK BRICK ARE MANUFACTURED.

...the oldest cork product is still important...

ARMSTRONG'S CORKS

CORK bottle stoppers, the Armstrong Cork Company's original product, still hold a very important place in its output.

In Spain, corks were once cut entirely by hand. All the members of Spanish peasant families would engage in the tedious occupation. A good workman could produce from 2000 to 2500 corks per day. But high speed machinery such as that used in the Armstrong factories is gradually wiping this craft out of existence.

As the slabs of cork bark are received at the Armstrong factories, they are carefully sorted into from 125 to 150 grades according to quality and thickness. Next they receive a steam bath and then are sliced into strips. These strips pass before a rotating tubular punch which bores out cylindrical pieces with straight sides. There is some call for these straight corks, but the greatest demand is for the familiar tapered cork.

Tapering is a separate operation. The straightsided cylinders pass into a machine which holds and turns them at just the proper angle against the edge of a revolving

circular knife. A delicate shaving curls away from the blade, leaving the cork with its sides smoothly tapered.

Next comes washing in a solution that bleaches and sterilizes the corks. This is followed by drying and the final step, sorting, which in some respects is the most interesting of all. Cork sorters are highly skilled operators, usually women. They examine the corks as they come in baskets from the dryers, and in the flash of an eye determine to which of nine standard grades they belong. Experienced sorters can handle over 35,000 corks a day.



... Embossed-Top Corks ...

This is a special type of cork manufactured by the Armstrong Cork Company. A tapered cork is glued securely with waterproof cement to a made-to-order top of decorated wood. A design or trade-mark is embossed on the wood top. This makes an attractive stopper which is at the same time practical and easy to remove from the bottle. The chances are you have one in your ink bottle or some bottled toilet preparations.



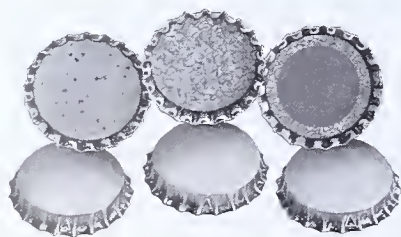
TOP AND SIDE VIEWS OF AN EMBOSSED TOP CORK.

...keeping the flavor in soft drinks

ARMSTRONG'S CROWNS

WHEN you remove the metal cap from a carbonated or malt beverage and are greeted by a fizzing that says the drink isn't "flat," you have a little piece of cork to thank.

In the top of that metal crown is a disc made of composition or natural cork. When the



THREE TYPES OF ARMSTRONG'S CROWNS. EACH IS AS GOOD AS 70 YEARS OF CORK EXPERIENCE CAN MAKE IT.

bottle was capped, the disc was forced against the lip, sealing it tight.

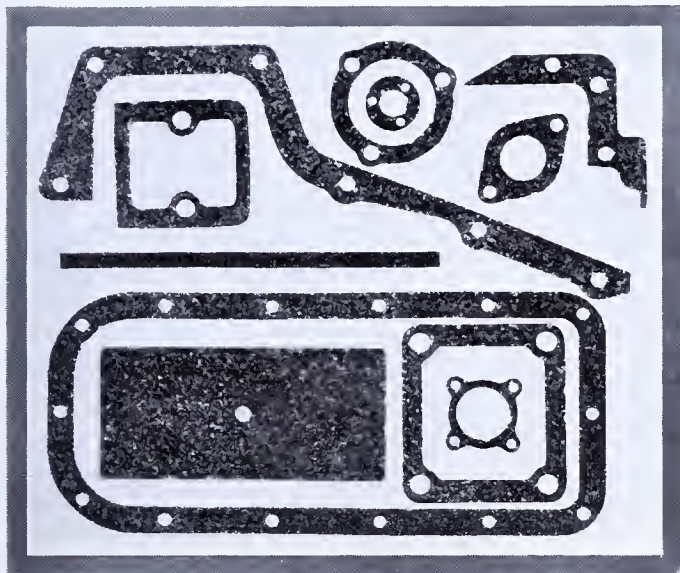
The first step in making a crown is to lithograph the trade-mark of the cap on tin plate. Next comes lacquering and then the caps are died out on great die presses. The cork discs are automatically placed in the caps and fastened with an adhesive.

Crowns in which the discs are of natural cork are used on highly carbonated beverages and on those which are stored for some time. Cork composition crowns are used on low charged beverages, the quick-selling soft drinks.

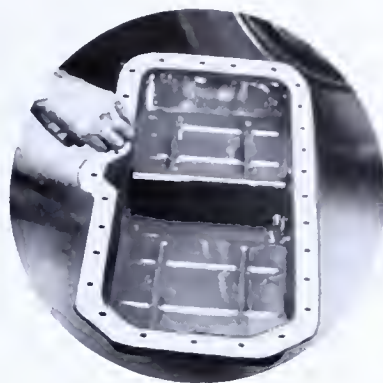
... in your automobile

ARMSTRONG'S CORK GASKETS

AUTOMOBILE, truck, and tractor motors are literally put together with cork. Wherever a seal against the passage of oil, water, or gasoline must be made between steel stampings—where the oil pan meets the crank case, for example—there you are apt to find an Armstrong's Cork Gasket. Steel stampings are not machined and hence their



APPLYING AN ARMSTRONG CORK GASKET TO THE OIL PAN OF AN AUTOMOBILE. IT FITS PERFECTLY, EACH BOLT HOLE LINING UP.



joining surfaces are not perfectly smooth. A cork gasket fills up these irregularities. When the two parts are bolted together the resilient cork is forced tightly against the steel, thus preventing leakage of oil, water, or grease at the juncture.

Armstrong's Cork Gaskets are made of granulated cork mixed with an adhesive. This composition is formed in sheets which are then cut into various shapes to fit perfectly between the parts of different makes of motors. Armstrong's Cork Gaskets will not shrink, stretch, deteriorate, or lose their resilience. They always make a tight, sure seal between the joining parts.

THERE ARE HUNDREDS OF DIFFERENT VARIETIES OF GASKETS IN THE ARMSTRONG LINE, SUITED TO ALMOST EVERY TYPE OF MODERN MOTOR CAR AND GASOLINE ENGINE. THEN THERE ARE OTHERS FOR PUMPS AND A WIDE VARIETY OF GENERAL USES.

... putting comfort and shapeliness in shoes

CORK BOX TOES, BOTTOM FILLER, KORXOLE

IN women's shoes (McKay process) the shoe must have an insole that is flexible and thin, but still firm enough to keep the upper firmly in place. Korxole innersoling—made of ground cork and a binder, placed between two layers of fabric—offers many advantages over leather innersoling.

Box toes (in the toes) and counters (in the heels) are used in all men's shoes. If hard and unyielding they require painful "breaking in"—if soft and flabby, the shoe loses its shape. Flexible, resilient cork allows Armstrong's Cork Box Toes and Counters, made of cork composition and fabric, to keep their shape, and still be comfortable.

A third use of cork is for Bottom Filler (granulated cork mixed with a binder)—used between the insole and outer sole. Armstrong's Cork Bot-

tom Filler is probably the best material for this purpose because of cork's properties of resilience, water-proofness, and lightness of weight.

A GREAT DEAL OF THE DAY'S COMFORT DEPENDS UPON FOOT-EASY SHOES. ARMSTRONG'S CORK SHOE PRODUCTS ARE RESPONSIBLE FOR MUCH OF THE FOOT COMFORT THAT MODERN MEN AND WOMEN ENJOY. THIS ILLUSTRATION SHOWS THE USE OF ARMSTRONG'S CORK BOX TOES AND COUNTERS.

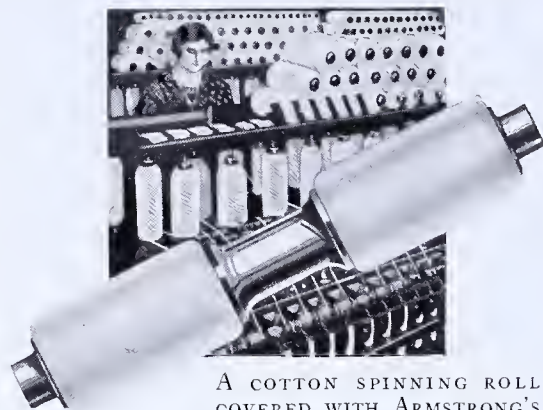


... in the great textile mills of the world *Armstrong's Cork plays an important part*

THE textile industry is one of many which have discovered in recent years that there are a number of ways of using cork to good advantage in machine equipment. Cotton mills, worsted mills, and silk mills use it to cover friction rolls of many types which draw yarn and, in some cases, fine cloth through spinning frames, looms, and other machines.

It is supplanting leather for this purpose.

In all textile applications the cork used is a composition made from finely granulated cork. In cotton mills, cork composition is used in the form



A COTTON SPINNING ROLL COVERED WITH ARMSTRONG'S SEAMLESS CORK COTS.

of hollow, seamless cylinders, called cots, which fit snugly over the metal rolls or arbors on which the yarn is drawn. Worsted mills use the composition in strips which are wrapped around the rolls and cemented in place. Composition cork ribbon with one surface gridded is employed in silk mills. It is wrapped spirally around the rolls which draw

the finished cloth through the loom.

The frictional quality of cork is the principal factor that suits it so well for its many roll covering applications in textile mills.

... serving many industries in many ways

SPECIAL CORK PRODUCTS

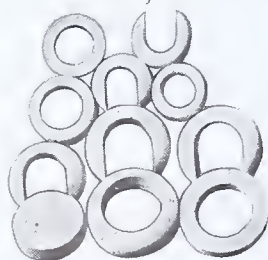
CORK serves us every day of our lives in many interesting but little known ways. When you dial a number on an automatic telephone, a cork-covered roll helps to complete the call at the switchboard; when you remove the wrapper from a loaf of bread you are undoing what a cork covered roll has probably helped to do; when you

turn on the drying device in the washing machine, a cork covered wheel drives the whirling dryer. In the form of wheels it is used for polishing plate glass and chinaware. Cork literally keeps the wheels of industry moving, for in the form of



NATURAL CORK POLISHING WHEELS.

NATURAL CORK FLOATS USED IN CARBURETORS, GASOLINE TANKS, GAUGES, ETC.



oil seals for ball and roller bearings on many kinds of machines, it keeps oil in and keeps dirt out.

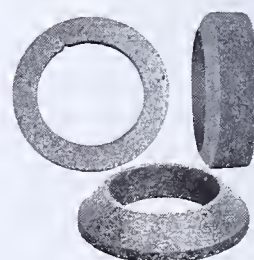
In every case its use is accounted for by a combination of the following qualities: It is easily compressed, is resilient, resists penetration by liquids, is light in weight, has high frictional qualities, obstructs heat flow, is affected by but few chemicals, does not deteriorate, and is relatively inexpensive. No other material combines the same valuable characteristics.

The uses of cork in modern industry are described in the booklet called "Industrial Applications of Cork," which may be had upon request.



COMPOSITION CORK GRINDING WHEELS.

OIL AND GREASE RETAINERS MADE OF COMPOSITION CORK.



AN ASSORTMENT OF WASHERS, DISCS, AND GASKETS MADE FROM NATURAL AND COMPOSITION CORK.

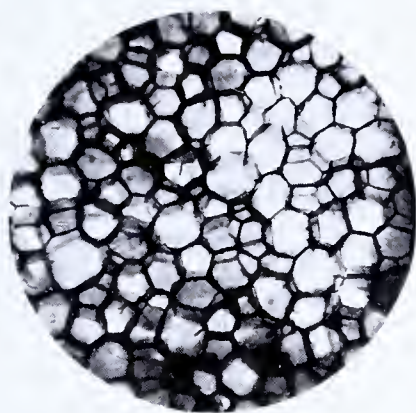
... keeping heat where it belongs

CORKBOARD INSULATION

MORE than 100,000 tons, or between 50% and 60% of the world's annual stripping of corkwood, are used for insulation purposes.

These figures may surprise you if you are not well acquainted with the cork industry. But when you understand the structure of cork it is easy to see why so much of it is used in controlling heat. Under the microscope cork is seen to be a mass of minute cells with walls of thin tissue. Trapped in each cell is a bit of air, sealed so tightly that it cannot circulate nor escape. Excepting a vacuum, still air minutely divided is the best-known non-conductor of heat.

The most common form in which cork is used as insulation is corkboard. This is made by compressing and baking carefully screened



A MICROSCOPIC PHOTOGRAPH OF CORK SHOWING ITS UNIQUE AIR-CELL STRUCTURE.

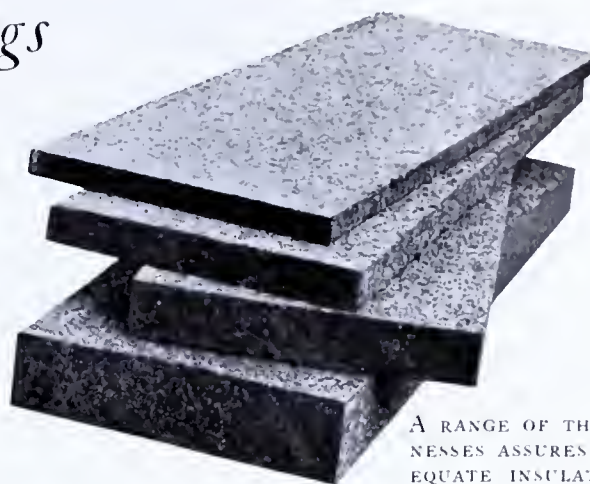
granulated cork. Compressing eliminates the space between granules, and baking liquefies the natural gum or resin in the cork. This liquid resin cements the particles together.

The final step of manufacture is cutting the baked sheets that come from the molds into boards 12 inches wide by 36 inches long by 1, 1½, 2, 3, 4, or 6 inches thick.

... in your home to save fuel and give comfort

Compared with cork, the ordinary building materials used in houses—concrete, brick, stone, plaster, stucco, tile, lumber, etc.—are really heat conductors rather than insulators. Heat travels through wood three and one-third times as fast as it does through corkboard; through concrete over twenty times as fast; and through brick over sixteen times.

This means that uninsulated houses are subject to loss of furnace heat in winter and penetration of the sun's heat in summer, conditions which are



A RANGE OF THICKNESSES ASSURES ADEQUATE INSULATION IN A SINGLE LAYER.

not conducive either to comfort or to economy.

Heat leakage is materially reduced when the exterior walls and the roof are adequately insulated with corkboard. Adequate insulation is ordinarily 1½ inches of cork in the walls and 2 inches under the roof. Corkboard is erected against studding, joists, or rafters by nailing. Against masonry walls, it is erected in portland cement. The inside plaster may be applied directly on the cork, without lathing.

The economy of insulating a house with corkboard is reflected in a material saving in heating plant and fuel costs. Equally important is the comfort factor—a warmer, more healthful house in winter, and a cooler, more livable house in summer.

ARMSTRONG'S CORKBOARD IS APPLIED AGAINST THE WALLS AND UNDER THE ROOFS OF HOUSES. A PLASTER FINISH IS THEN APPLIED DIRECTLY TO THE CORKBOARD WITHOUT LATH.



... for the roofs of all buildings

On the roofs of buildings, corkboard plays a dual role—it resists the passage of heat and, as a result, prevents condensation of moisture in humid air.

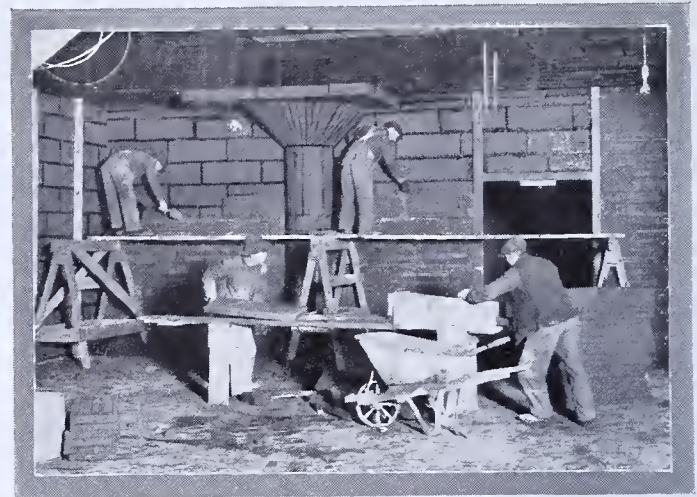
As has been mentioned, most building materials are no appreciable barrier to the flow of heat. The same is true of roofing materials. In the winter months, buildings with uninsulated roofs are harder and more expensive to heat. In the warm months the occupants swelter beneath the sun-baked roof.

Then, there is the matter of condensation. The nature of the operations carried on in the many buildings is such that the air contains a great deal of moisture. This is true in paper mills, textile mills, laundries, printing plants, bakeries, etc. In cold weather this moisture condenses and collects on the cold uninsulated ceiling and drips down on goods and machinery.

Both problems—heat leakage and condensation—are solved by insulating the roof adequately with corkboard. Filtration of heat is counteracted and the temperature of the ceiling is kept at a point where, in all but extreme cases, moisture will not condense.

Every building that is heated, where workers or tenants must be housed in comfort, or where condensation is a troublesome problem, should have the roof insulated with corkboard. More particularly, hotels, clubs, apartment houses, office buildings, churches, theatres, store buildings, and industrial buildings of all kinds, need insulated roofs.

ARMSTRONG'S CORKBOARD BEING LAID UPON A FACTORY ROOF. EACH BOARD IS INDIVIDUALLY SET IN PLACE IN HOT PITCH OR ASPHALT, MAKING A WATER-TIGHT, INSULATED SURFACE.



A COLD STORAGE ROOM INSULATED WITH ARMSTRONG'S CORKBOARD GIVES ECONOMICAL SERVICE FOR YEARS.

... cold storage rooms

Corkboard is the standard insulation used by the cold storage industry where the control of heat is of utmost importance. Preservation of meat, fish, poultry, eggs, fruit, vegetables, dairy products, and other food stuffs requires efficient insulation. In addition, poor temperature control necessitates excessive operation of the refrigerating machinery, thus raising costs.

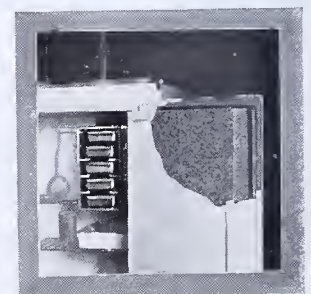
The thickness of corkboard used in cold storage work ranges from 3 inches to 9 inches, the latter thickness being employed only in sharp freezing rooms where the temperature is carried to 15° F. or 20° F. below zero.

... in the best refrigerators

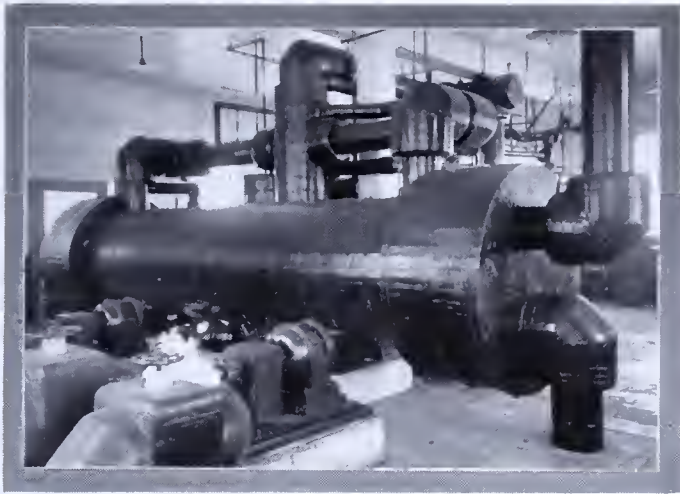
The Household Refrigeration Bureau, a research organization formed by the ice industry, has declared that the best grades of refrigerators are insulated with at least 2 inches of corkboard.

Some boxes contain less insulation, but those of highest quality and efficiency have 2, 2½, 3, or even more inches of corkboard filling entirely the space between the inner and outer walls. On this insulation and type of construction the adequate safeguarding of food depends.

ARMSTRONG'S CORKBOARD KEEPS FOOD FRESH IN THE HOME.



... keeping the cold pipes cold



AN INSTALLATION OF ARMSTRONG'S CORK COVERING

ARMSTRONG'S CORK COVERING

USUALLY a plant employing mechanical refrigeration has the refrigerating unit at some distance from the rooms which it cools. Pipes convey the refrigerant—brine, ammonia, etc.—

from the unit to the room. If the plant is to operate efficiently and economically it is essential that these lines be insulated to prevent the absorption of heat, i.e., the dissipation of refrigeration.

Likewise, the pipes of drinking water systems that carry water from a central cooling unit to bubblers throughout a building must be protected from the warm air.

Such lines should be covered with Armstrong's Cork Covering, a first cousin of corkboard. It is made of granulated cork compressed and baked in molds of the necessary shapes and sizes to cover standard pipes and fittings. It is supplied in sections split in half longitudinally and comes in three thicknesses ranging from 1.2 to 4 inches for all sizes of pipe.

Cork covering saves more than 85% of the refrigeration that would be lost were the lines not insulated. Frequently in less than a year this saving will pay for the insulation.

... reducing vibration, increasing efficiency

ARMSTRONG'S CORK MACHINERY ISOLATION

IT'S fatiguing to have the constant din of throbbing machinery pounding in one's ears. Fatigue breeds carelessness, which in turn breeds accidents, inefficient work, and lower production. Furthermore, continual vibration racks the machines.

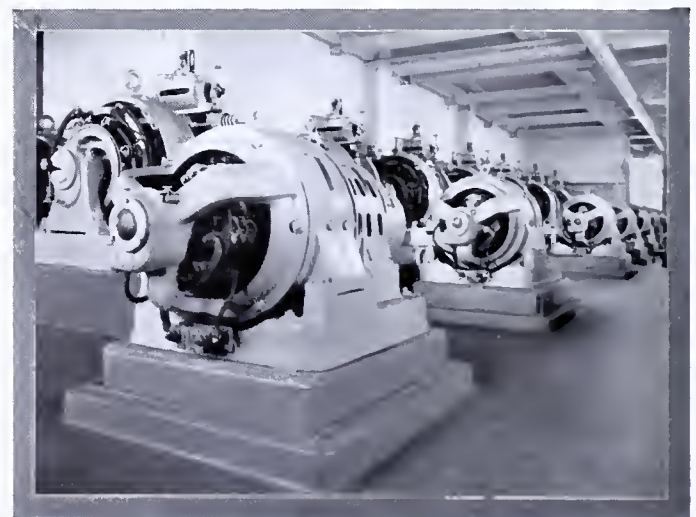
While noise and vibration are the inevitable by-products of a machine age, they are not insurmountable. Cork again offers a remedy—this time in the form of Armstrong's Machinery Isolation.

It is placed between the machinery and the foundation on which the machine rests or hangs. Hence, the name "isolation." It isolates the machine from the floor, wall, or ceiling. The cushion of air cells in the cork breaks up and absorbs vibration before it is transmitted and amplified through the foundation.

There is virtually no limit to the places where cork machinery isolation can be used to advantage. These places include apartment houses, bakeries, clubs, grinding rooms, hospitals, hotels, libraries, machine shops, office buildings, power boats, printing plants, residences, steamships, stamping

rooms, and various industrial plants. Among the machines that need isolation are air compressors, blowers, drill presses, drop hammers, elevator hoists, engines, fans, forging machines, motors, printing presses, pumps, punching machines, refrigerating machines, etc.

THESE HUGE GENERATORS IN A LARGE DETROIT DEPARTMENT STORE RUN SMOOTHLY AND QUIETLY—THEY ALL REST UPON A LAYER OF ARMSTRONG'S CORK MACHINERY ISOLATION.



... helping you to hear the speaker



ARMSTRONG'S CORKOUSTIC

EVERYONE has been in halls in which he always has to strain to hear the speech or program that is being put on. At the other extreme, there are halls in which sound reverberates and becomes a loud, annoying jumble. Poor acoustics is usually the cause.

ARMSTRONG'S CORKOUSTIC NOT ONLY CORRECTS ACOUSTICAL CONDITIONS BUT ALSO SERVES AS A DECORATIVE WALL AND CEILING FINISH. IT CAN BE PAINTED IF DESIRED WITHOUT LESSENING ITS SOUND-ABSORBING QUALITIES.

Armstrong's Corkoustic, which, like corkboard, is made of granulated cork, is an efficient acoustic corrective. It absorbs sound and in addition serves as an insulating and decorative material. It comes plain or decorated in 1-inch, 1½-inch, and 2-inch boards of various sizes which can be applied to any wall or ceiling surface.

Corkoustic has proved entirely successful in correcting acoustics of many types of buildings. It is used in bowling alleys to deaden the rumble of balls and the clamor of pins; in cafeterias to lessen the din of handling trays and dishes; in swimming pools to quiet the shouts of the swimmers and prevent echoing; in offices, stores, and factories where the employees are exposed to noisy working conditions and in churches, theaters, and auditoriums of all kinds where speeches, plays, and musical programs are given.

... floor comfort for dairy barns

ARMSTRONG'S CORK BRICK

CATTLE, swine, and sheep are like human beings in that the floors on which they stand have a decided effect on their health, comfort, and, in the case of livestock, their productiveness. The floors in barns, piggeries, and sheep pens should be thoroughly sanitary, warm, easy underfoot and non-slippery (wet or dry). From the standpoint of the stock raiser, they must also be durable, easy to install, and moderate in cost.

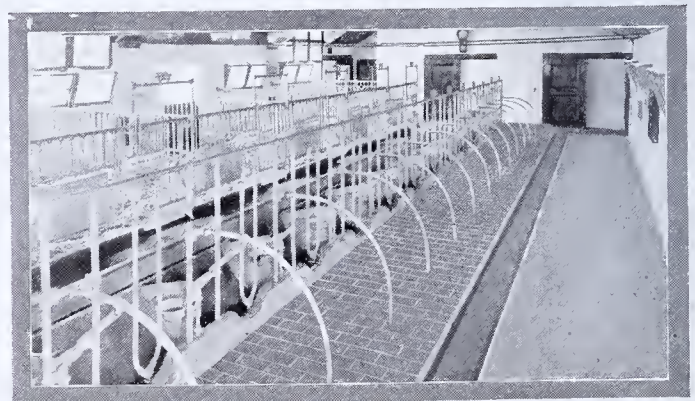
Armstrong's Cork Brick is a flooring material that satisfies all these requirements and hence is widely used in buildings where livestock is kept. It consists of finely granulated cork and refined asphalt, heated and thoroughly mixed and then compressed and molded into brick form.

These bricks are nonabsorbent and therefore highly sanitary. When laid properly in portland cement, a cork brick floor is smooth but non-slippery and is easy to keep clean. As might be supposed from their cork content, cork brick floors are always warm enough for the stock to stand

or lie upon without heavy bedding or artificial heat. The resilient cork also makes the floors easy underfoot and the high frictional quality of the cork renders them non-slippery.

From the standpoint of durability, ease of installation and cost, Armstrong's Cork Brick floors are equally satisfactory.

CLEAN, LIGHT, COMFORTABLE, THE MODERN STABLE FLOORED WITH ARMSTRONG'S CORK BRICK IS VERY DIFFERENT FROM THE OLD-FASHIONED BARN.



. . . the popular "every room in the house" floor

ARMSTRONG'S LINOLEUM

AT the time of our Civil War, Frederick Walton invented linoleum in England. Its essential ingredients are cork, burlap, and linseed oil.

After bottle corks are punched from cork blocks there is a certain amount of grinding cork left which is of the finest quality. Much of this scrap is utilized in making linoleum. The cork is ground until it will float in the air like dust. This grinding does not reduce the springiness of cork, but rather increases it.

Linseed oil is boiled, then allowed to drip down over hanging cloths, or scrims. As it oxidizes or solidifies on exposure to air, new layers are allowed to run down over it until each hanging scrim is covered with a thick coating of tough, oxidized oil. This solidified oil is next ground up and melted in large kettles, with resin and gums. After cooling and hardening, this mixture is allowed to "cure" for several days, then re-



A CRAFTSMAN WHO IS AN ARTIST IN LINOLEUM PUT THIS SHIP IN THE HALL OF A PENNSYLVANIA HOME. IT ADDS A TOUCH OF INDIVIDUALITY TO THE WHOLE INTERIOR.



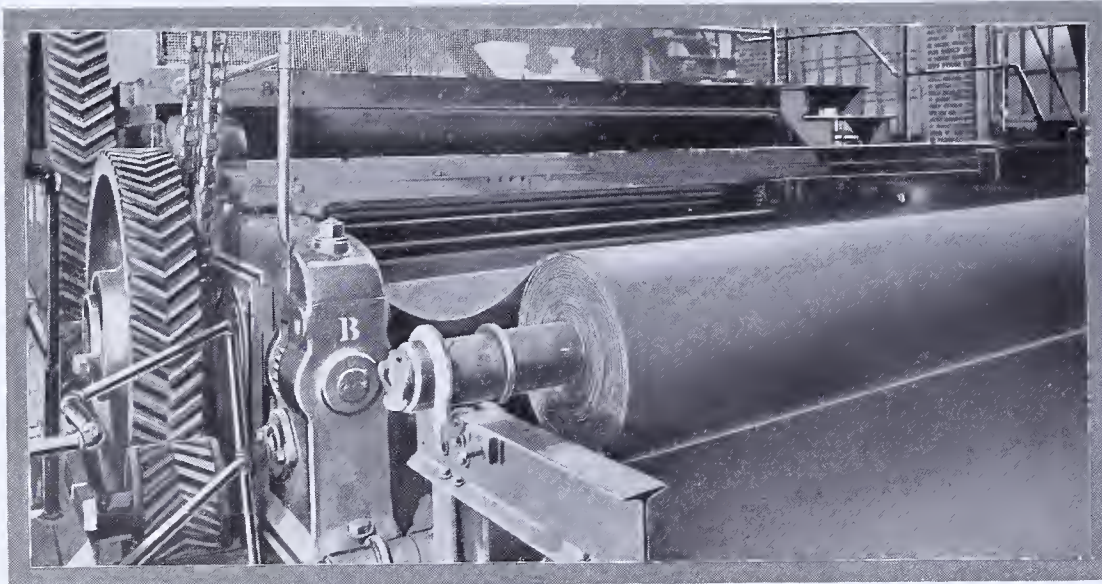
PRELIMINARY TO THE MANUFACTURE OF LINOLEUM, BALES OF WASTE CORK, WHICH COME FROM THE OTHER ARMSTRONG FACTORIES IN AMERICA AND ABROAD, ARE BROKEN UP AND PUT THROUGH THE CORK MILL. HERE THE CORK IS GROUND AS FINE AS FLOUR, SO FINE THAT IT WILL FLOAT IN AIR.

ground and mixed with cork flour and dry color pigments, through a long series of mixers. This mixture is pressed or calendered upon a burlap cloth—and there, except for the finishing processes, you have plain colored linoleum.

Embossed Inlaid Linoleum in which every color goes all the way through to the burlap back, is made by sifting different colors of the "mix" through stencils upon the burlap back, and then keying the mix and burlap together in huge hydraulic presses. A second set of hydraulic presses apply the embossing.

Straight Line Inlaid is made by calendering the "mix" into "blankets" without backing, then die-cutting the different colored blankets into blocks, fitting and "keying" them together upon the burlap under great pressure. The fitting together of the blocks may be done either by hand or on the huge rotary press.

Other types of linoleum are described in "The Story of Floors" which is sent upon request.



IN THESE HUGE CALENDERS THE LINO-
LEUM MIX IS FORCED BY GREAT PRES-
SURE ONTO THE BURLAP BACK, AND
THE TWO ARE "KEYED" INTO A SINGLE
PIECE.

After the linoleum is calendered, it is sent to the ovens, where it hangs in long festoons, exposed to heat until it is seasoned. From the ovens it goes to the finishing department where the Accolac Process gives the linoleum a protective surface of clear nitro-cellulose lacquer. This process forces the lacquer into the surface sufficiently to make it an integral part of the linoleum—protection against soiling, spotting, and staining. After the final inspection it is ready to go to the shipping warehouses, where it is sent out to every part of the world.

It is interesting to note that even in Paris, home of style and color, Armstrong's is a popular imported linoleum.

In America, Armstrong's Linoleum has become the accepted floor for living-rooms, dining-rooms, and bedrooms, as

THE GIANT ROTARY PRESS WHICH MAKES INLAID LINOLEUM COMPLETELY, CALENDERING THE "MIX," CUTTING OUT BLOCKS, FITTING THEM TOGETHER, AND "KEYING" THEM TO THE BURLAP.

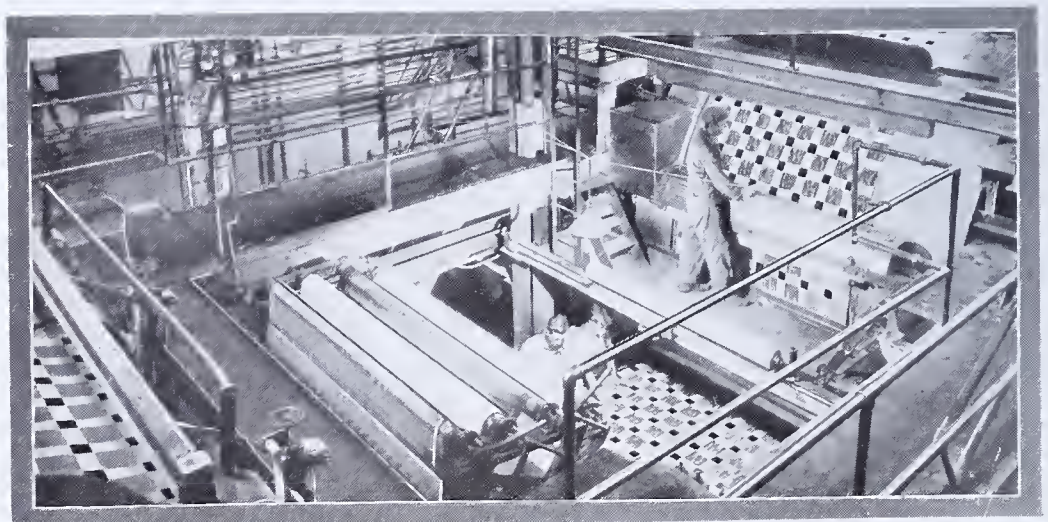


If you want suggestions, the Armstrong Bureau of Interior Decoration will not only suggest complete color schemes, but will also supply samples of the decorative material to be used. "New Ideas in Home Decoration," a colorful book containing many pages of helpful information for the home decorator, will be sent upon request.

. . . business floors too

The same characteristics that make Armstrong's Linoleum Floors so desirable for private homes make them doubly so for modern homes of business.

ONE OF THE PATTERN BLOCKS, MADE BY HAND, WHICH PRINTS THE DESIGN ON PRINTED LINOLEUM.



... hand-set for lifetime wear

ARMSTRONG'S CORK TILE AND LINOTILE

ARMSTRONG'S Cork Tile and Linotile Floors are particularly appropriate for fine homes and business floors because they permit the development of individual and distinctive floor ideas in a resilient material.

Armstrong's Cork Tile contains nothing but pure cork, baked in molds under great pressure. The gums in the cork act as a binder, forming a solid, wearable tile. Cork tile comes in three rich shades of brown, the three natural shades that result from baking. Its rich dignity, noiseless tread, and foot-easy comfort, have made it especially popular for floors of churches, libraries, schools, and other public buildings. It is coming to be more and more used in apartments, hotels, and private homes every year, for it has all the necessary beauty and service features that the modern home requires, plus a degree of comfort and warmth that few other floors possess.



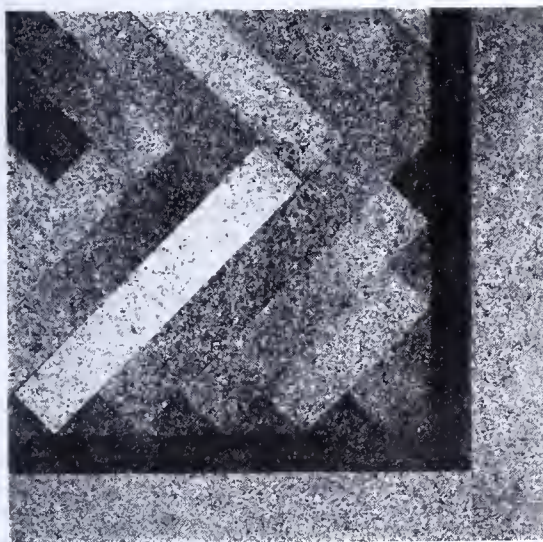
EACH TILE IS SEPARATELY FITTED BY HAND. LINOTILE FLOORS AND CORK TILE FLOORS HAVE ALL THE BEAUTY OF THE HAND CRAFTSMANSHIP OF ANTIQUITY—ALL THE COMFORT AND SERVICEABILITY OF MODERN MATERIALS.

Linotile floors are composed of individual hand-set tile, made from the same material as linoleum, ground cork and oxidized linseed oil, but thicker and denser than inlaid linoleum. Linotile comes in thirty different colors, including both marbles and plains. A wide assortment of sizes and shapes in any of these thirty colorings allows the architect, builder, or decorator the opportunity of creating an individually designed floor to give any interior effect, or match any color scheme.

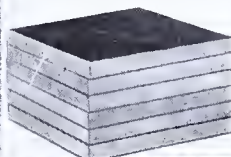
Both Armstrong's Linotile and Cork Tile are sold by retail merchants who handle Armstrong's Linoleum. With all these resilient floors, good laying is highly important. The names of merchants in your vicinity properly equipped to give satisfactory installation service will be furnished upon request.

... book describes custom-built floors

If you would like to know more about these modern hand-laid floors, send for the book, "Custom-Built Floors of Cork." Fully illustrated in colors, it pictures examples of individualized floors in home, office, and business building in every part of the country. Whether you are building or redecorating, you will find "Custom-Built Floors of Cork" a valuable reference book. Sent free upon request.



THE THREE NATURAL SHADES OF CORK TILE ALLOW THE CREATION OF BEAUTIFUL FLOORS.



LINOTILE COMES IN THIRTY DIFFERENT COLORINGS AND MANY SIZES AND SHAPES. ANY FLOOR DESIGN MAY BE CREATED AND COLOR SCHEME MATCHED.



... a few of the many other Armstrong cork products

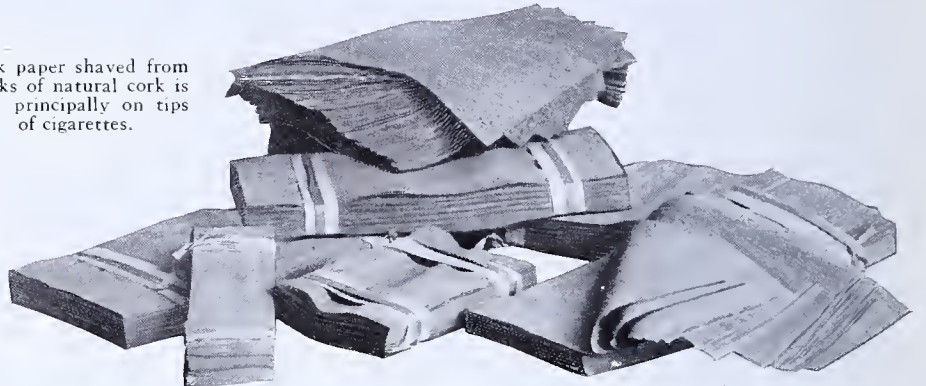


Assortment of natural cork handles for fishing rods, tools, etc.

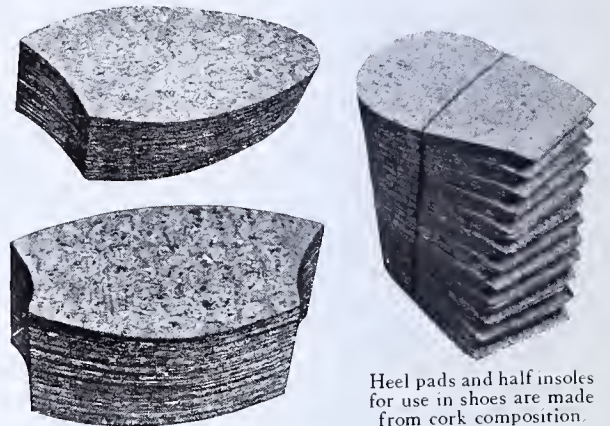
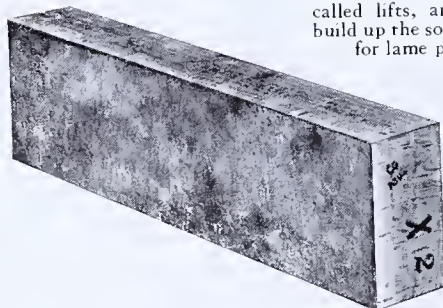
All ships carry ring buoys made of cork covered with heavy canvas.



Cork paper shaved from blocks of natural cork is used principally on tips of cigarettes.

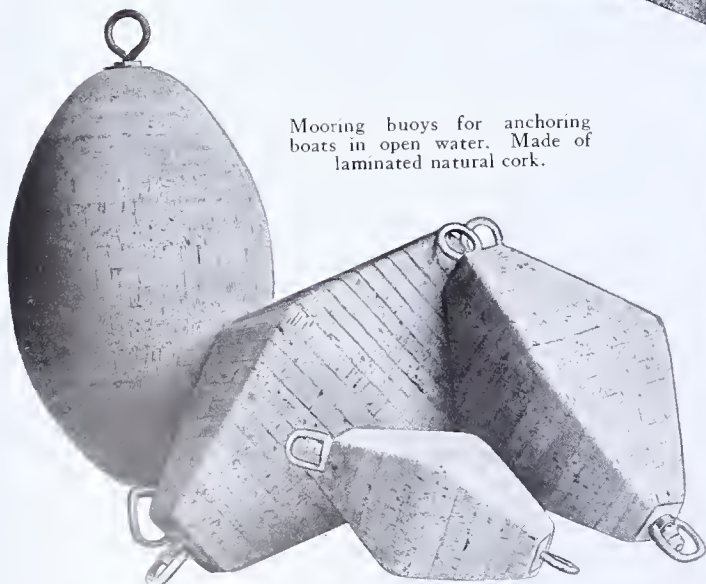


Blocks of natural cork, called lifts, are used to build up the soles of shoes for lame people.

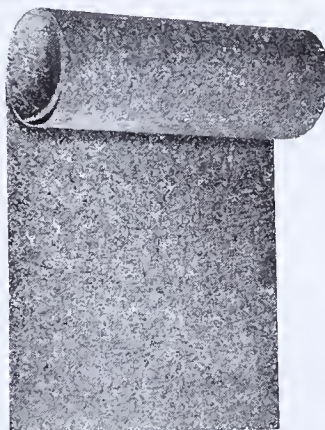


Heel pads and half insoles for use in shoes are made from cork composition.

Blocks of cork in life preservers keep people afloat in the water.



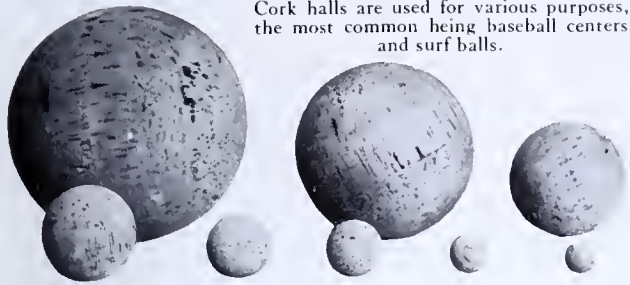
Mooring buoys for anchoring boats in open water. Made of laminated natural cork.



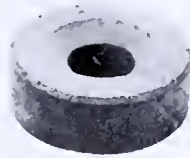
Articles of various shapes and for many purposes are cut from sheet cork, natural and composition.



... there are hundreds of special applications of cork



Cork balls are used for various purposes, the most common being baseball centers and surf balls.



Composition cork rings are used in laboratories for holding flasks, beakers, and other apparatus.

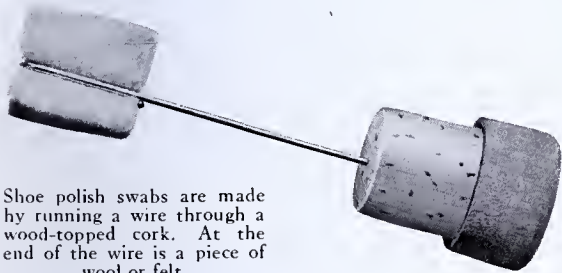
Cork insoles, fabric covered, are made in various sizes for men's and women's shoes.



Fishermen use various types of cork floats on their nets and seines. At the left is a three-piece seine cork; next, square seine corks with rounded corners; next, gill corks; and at the right, round seine corks.



Assortment of shell corks, jar corks, and mustard corks for closing bottles and jars.



Shoe polish swabs are made by running a wire through a wood-topped cork. At the end of the wire is a piece of wool or felt.



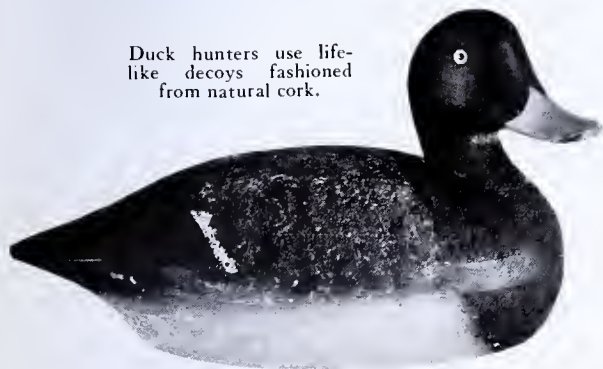
Cork is used as a foundation layer beneath the outside wrapping on golf club handles.



Composition and natural cork, in the form of rolls, strips, and sheets, are used on various types of machinery to draw and feed paper, cloth, foil, etc.



Cork penholder tips are one of the commonly known uses of cork.



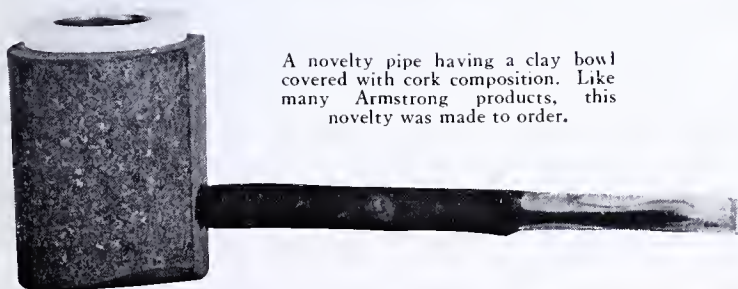
Duck hunters use life-like decoys fashioned from natural cork.



Discs for tube and bottle caps are punched from cork ribbon.



Several shapes of composition and natural cork hobbles are made for fishing lines.



A novelty pipe having a clay bowl covered with cork composition. Like many Armstrong products, this novelty was made to order.



Blocks of natural cork, called floats, are used by plasterers.

... telling America about cork



BECAUSE CORK IS THE FOUNDATION OF THE BUSINESS OF THE ARMSTRONG CORK COMPANY, IT IS FELT THE INTERESTS OF THE COMPANY AND THE INTERESTS OF ALL INDUSTRY WILL BE BENEFITED BY A PRESENTATION OF THE STORY OF CORK AND ITS USES TO THE PUBLIC. THE COMPANY HAS EMBARKED ON AN EXTENDED ADVERTISING PROGRAM FOR CORK, TWO PAGES OF WHICH ARE SHOWN HERE. THE ADVERTISING APPEARS IN *The Saturday Evening Post*, *The Literary Digest*, AND *Time*.

... publications that will interest you

"INDUSTRIAL APPLICATIONS OF CORK."—This booklet deals with the various properties of cork and its many practical uses in industry.

"A DAY WITH CORK."—Describes the part that cork plays in the daily life of an average citizen.

"ACOUSTICAL CORRECTION."—Deals with the use of Corkoustic as a means of improving the acoustics of auditoriums, churches, schools, offices, and other public buildings.

"THE CORK-LINED HOUSE MAKES A COMFORTABLE HOME."—Describes the advantages of cork insulation in residences.

"ARMSTRONG'S CORK FOR SEALING ANTI-FRICTION BEARINGS."—Describes how and why cork is used as a bearing seal.

"INSULATION OF ROOFS WITH ARMSTRONG'S CORKBOARD."—Deals with the value of cork as a means of saving fuel and maintaining comfortable temperatures in all kinds of buildings.

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THE ARMSTRONG LINE

THE Armstrong Cork Company, manufacturer of cork products since 1860, has ten domestic factories located at Camden, Gloucester, and New Brunswick, N. J.; Fulton, N. Y.; Pittsburgh, Oakdale, Beaver Falls, two at Lancaster, Pa.; Pensacola, Fla.; six factories in Spain; and thirty-two cork-baling and receiving stations abroad.

Principal products of the Armstrong Cork Company

Cork Division Products

FOR AUTOMOBILES AND OTHER MACHINERY

Armstrong's Cork Gaskets.

Armstrong's AutoMat and Armstrong's Linoleum for covering Running Boards.

Armstrong's Glazing Strip for Setting Glass and Silencing Body Noises.

Armstrong's Body Shim; Anti-Squeak; Cork Floats; Oil and Grease Retainers; Washers and Discs; Valve Seats; Noise and Shock Absorbing Pads and Cushions; Friction Rolls; Pulleys and Blocks.

CLOSURES FOR BOTTLES, JARS, ETC.

Armstrong's Corks; Armstrong's Crown Caps; Armstrong's Embossed Top Corks; Armstrong's Rubber Stoppers; Bungs (cork and wood); Shoe Swabs; Plugs and Corks of all kinds.

FOR SHOE MANUFACTURING AND REPAIRING

Armstrong's Cork Box Toes; Armstrong's Bottom Filler; Armstrong's Cork Counters; Ground Cork; Heel Pads; Insoles (full and half); Korxole; Lifts; Linosole; Sheet Cork.

FOR MARINE PURPOSES

Armstrong's Life Preservers; Gill, Seine, and Mullet Corks; Mooring Buoys; Ring Buoys; Yacht Fenders.

FOR TEXTILE MILLS

Armstrong's Gridded Cork Ribbon for Silk Loom Take-Up Rolls; Armstrong's Seamless Cork Cots for Cotton Spinning and Card Room Rolls; Armstrong's Cork Covers for Worsted Mill Rolls; Armstrong's Cork Temple Rolls for Silk Looms; Armstrong's Cork Covers for Silk Throwster Rolls; Armstrong's Cork Composition for Loom Brakes.

OTHER PRODUCTS FOR MISCELLANEOUS USES

Armstrong's Table Mats and Cork Bath Mats; Cork Balls; Churn Strips; Entomological Sheets; Penholder Tips; Plasterers' Floats;

Grinding and Polishing Wheels; Ribbon Cork; Handles of all sorts; Ground Cork; Laboratory Rings; and hundreds of other Cork Specialties of all kinds.

Insulation Division Products

HIGH TEMPERATURE INSULATION

Nonpareil High Pressure Covering and Blocks for Steam Lines, Boilers, etc.

Armstrong's Insulating Brick and Nonpareil Insulating Brick for Boiler Settings, Furnaces, Ovens, etc.

LOW TEMPERATURE INSULATION

Armstrong's Corkboard for insulating Cold Storage Rooms and Walls and Roofs of Commercial and Public Buildings, and Residences.

Armstrong's Cork Covering for Cold Pipes.

OTHER PRODUCTS

Circle A Cork Brick for Floors of Dairy Barns, Hog Houses, Warehouses, etc.

Armstrong's Corkoustic for Sound Deadening and Acoustical Correction.

Armstrong's Cork Machinery Isolation for Deadening Noise and Vibration of Fans, Presses, Motors, etc.

Floor Division Products

Armstrong's Linoleum: Plain, Jaspé, Inlaid, Embossed, Applikaid, Printed, Arabesq, and Linoleum Rugs.

Armstrong's Linotile for Offices, Banks, Theaters, Kitchens, Pantries, Elevators, etc.

Armstrong's Cork Tile for Bathrooms, Libraries, Museums, Billiard Rooms, etc.

Armstrong's Cork Carpet for Churches, Libraries, etc.

Armstrong's Quaker Rugs and Quaker Floor Covering.

Armstrong's Standard-Felt Rugs and Floor Covering.

Armstrong's Lining Felt.

Armstrong's Linoleum Paste and Cement.

Armstrong's Linoleum Wax and Lacquer.

Armstrong's



Product